

LISTING OF CLAIMS

1-59. (Canceled).

60. (Previously presented) A process for forming at least one discontinuous interface region between two regions of semiconductor material, the process comprising:

implanting at least one region of dielectric material comprising nitrogen in the vicinity of at least a portion of a boundary between the two regions of semiconductor material, wherein said dielectric material is in the form of a plurality of islands, thereby controlling electrical resistance at the interface.

61. (Previously presented) The process according to claim 60, wherein said at least one region of dielectric material is implanted in the vicinity of the surface of a first of the regions of semiconductor material.

62. (Previously presented) The process according to claim 60, wherein the dielectric material is deposited at an energy sufficient to create a discontinuous layer of dielectric material.

63. (Previously presented) The process according to claim 60, wherein the dielectric material is deposited at a thickness and covering a portion of the boundary between the two regions of semiconductor material sufficient to control base current flowing between the two regions of semiconductor material.

64. (Previously presented) The process according to claim 60, wherein the dielectric material is implanted at the surface of the first region of semiconductor material.

65. (Previously presented) The process according to claim 60, wherein atoms or molecules of the dielectric material are implanted at the surface of one of the regions of semiconductor material.

66. (Previously presented) The process according to claim 60, wherein atoms or molecules of the dielectric material are implanted under the surface of one of the regions of semiconductor material.

67. (Previously presented) The process according to claim 60, wherein one of the regions of semiconductor material is monocrystalline silicon and the dielectric material includes nitrogen atoms implanted in the monocrystalline silicon.

68. (Previously presented) The process according to claim 66, wherein the nitrogen atoms are implanted at an energy of about 0.1 KeV to about 5 KeV.

69. (Previously presented) The process according to claim 66, wherein the nitrogen atoms are implanted at a dose of from about 1×10^{11} to about 1×10^{14} and with an energy of about 0.1 KeV to about 5 KeV.

70. (Previously presented) The process according to claim 60, further comprising: subjecting the semiconductor material and the implanted dielectric material to an annealing step.

71. (Previously presented) The process according to claim 60, further comprising: utilizing a mask to selectively implant the dielectric material in the semiconductor.

72. (Previously presented) The process according to claim 60, further comprising: implanting a layer of the dielectric material; and selectively removing portions of the dielectric material.

73 - 84. (Canceled).

85. (Previously presented) A device fabricated by the process of Claim 60.